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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/545,691	04/07/2000	Barrie Gilbert	1482-132	2100

7590 09/26/2002

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EXAMINER

SOBUTKA, PHILIP

ART UNIT	PAPER NUMBER
	2683

DATE MAILED: 09/26/2002

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BOARD OF PATENT APPEALS  
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EXH

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 16

Application Number: 09/545,691  
Filing Date: April 07, 2000  
Appellant(s): GILBERT, BARRIE

**MAILED**

Joseph Makuch  
For Appellant

SEP 26 2002  
Technology Center 2600

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed September 24, 2002.

**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

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**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on 2-27-2002 has been entered.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

The rejection of claims 15 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

**(8) ClaimsAppealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,789,799

Voinigescu et al

08-1998

5,307,512 Mitzlaff 04-1994

## **(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

## **Claim Rejections - 35 USC § 103**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voinigescu et al (US 5,789,799) in view of Mitzlaff (US 5,307,512).

Consider claim 15. Voinigescu teaches an amplifier cell comprising first and second input terminals (Voinigescu, fig 9, RF & LO), first and second output terminals (Voinigescu, fig 9, IF), first input stage coupled to the first and second output terminals (Voinigescu, fig 9, Q1,Q2) and arranged to drive the first and second output terminals responsive to a first input signal received at the first input terminal; and a second input stage coupled to the first and second output terminals and arranged to drive the first and second output terminals responsive to a second input signals received at the second input terminal (Voinigescu, fig 9, Q3,Q6). Voinigescu lacks a teaching of the amplifier stages being class AB. Mitzlaff teaches that class AB operation has higher efficiency when constant envelope modulation schemes such as FM are employed (col 2, lines 62-65). It would have been obvious to one of ordinary skill in the art to modify Voinigescu to use AB stages for higher efficiency when in FM operation.

**(11) Response to Argument**

Note that while the previous action contained a typographical error in that only one side of the mixer arrangement was mentioned, clearly the arrangement requires Q3 and Q6 to be coupled to the LO, and Q1 and Q2 to be coupled to the RF input. Note that the mixer arrangement as a whole was being cited, as the appellant appeared to realize when he presumed that the cited output included both IF+ and IF-, on page 3, in the last paragraph of appellants brief.

In response to appellants argument's note that while the RF input (Q1, Q2) is not directly coupled to the output terminals, clearly the RF input is driving the output of a mixer arrangement which mixes RF and LO to produce the IF. That is, the RF drives the input stage, which includes Q1 and Q2, while the LO drives the mixer stage, the input and mixer core together produce the two IF outputs at IF+ and IF-.

As to appellant's arguments regarding Voinigescu, note that while Voinigescu may indicate other arrangements for FM operation, clearly Voinigescu teaches the advantage being produced by AB operation, which is the teaching relied upon in the rejection.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  


Philip Sobutka  
September 25, 2002

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